

INTEGRALLY FIRED, LAMINATED  
ELECTROMECHANICAL TRANSDUCING ELEMENT

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ABSTRACT OF THE DISCLOSURE

10 An integrally fired, laminated electromechanical  
transducing element, fabricated using an inexpensive  
electrode material and having the electrode  
characteristic at least equivalent to that of the Ag-Pd  
electrode, is disclosed. Especially, in the integrally  
fired, laminated electromechanical transducing element  
15 according to the invention, (A) the rigidity of the  
internal electrode layers is low and the internal stress  
generated at the time of expansion or contraction of the  
ceramic layers is small, (B) the antimigration  
characteristic is superior, (C) the charge loss is small,  
20 the heat conductivity is high and the heat radiation  
characteristic is superior, and/or (D) the bonding  
strength between the ceramic layers and the electrode  
layers is high. The integrally fired, laminated  
electromechanical transducing element (1) according to  
25 the invention comprises, for example, an integrally fired  
laminate member fabricated by integrally firing a  
plurality of the ceramic layers (11) of piezoelectric  
ceramic or electrostrictive ceramic and the internal  
electrode layers (21, 22) interposed between the ceramic  
30 layers (11). The main component of the internal  
electrode layers (21, 22) is a base metal having a  
rigidity of not more than 160 GPa.